

BOOK REVIEWS

Forest Insects: A Textbook for the Use of Students in Forest Schools, Colleges, and Universities, and for Forest Workers. By R. W. Doane, Professor of Biology, Stanford University; E. C. VanDyke, Professor of Entomology, University of California; W. J. Chamberlin, Professor of Forest Entomology, Oregon State College, and H. E. Burke, formerly Senior Entomologist, U. S. Department of Agriculture. First ed., 8vo., cloth, 463 pp., 234 illus. N. Y. McGraw-Hill Book Co., 1936. \$4.50.

The comments on this book which follow are made from the viewpoint of a student of Coleoptera, not of a specialist in forest entomology. Since 217 of the 463 pages of the volume are devoted to consideration of insects of that order, the work will have a special appeal to all who may be concerned with their study. The various topics treated include such as life history and control of bark beetles, ambrosia beetles, and flathead and roundhead borers, with discussion in some detail of surveys of infested areas, analysis of such surveys, conditions necessary to successful control, preventive methods, treatment after attack, character of host plants, and the like. Considerable attention has been given to such matters as insect distribution and classification, as well as to the study of various ecological factors bearing on species attacking coniferous twig, cone, and broadleaf trees. Due consideration also has been given to control of other beetles attacking forest trees, notably, such as predaceous ground beetles, rove beetles, lady beetles, cylindrical bark beetles, cucujids, skin beetles, steel or hisster beetles, sap-feeding beetles, ostomids, snapping or click beetles, cross-wood borers, fireflies and soldier beetles, checkered beetles, powder post beetles, ptnids, death watch beetles, bostrichids, true powder beetles, darkling beetles, melandryids, pythids, oedermerids, mordellids, pyrochroids, blister beetles, May beetles, stag beetles, leaf eating beetles, flea beetles, tortoise beetles, and various weevils.

The book as a whole has been so prepared that it will be useful in the field as well as in the laboratory and classroom, and there

are also chapters on forest tree pests in other orders of insects, notably the moths and butterflies, sawflies, horn tails, bees, ants, aphids, scale insects, termites, and others. Lists of the more important forest trees and their principal insect enemies are included, and control methods for each order of insects are given. The subject matter purposely has been couched in non-technical language so as to be of wider usefulness to the forest ranger and the beginner in forestry, while the very full bibliographies at the end of each chapter will be particularly helpful to special students who may wish to make a more detailed survey of various insect groups.

J. S. W.